

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF VIRGINIA**

ADVANCED LITHIUM	)	
ELECTROCHEMISTRY (CAYMAN) Co. Ltd.,	)	
and ADVANCED LITHIUM	)	Case No.
ELECTROCHEMISTRY CO., LTD.,	)	
	)	
Declaratory Judgment	)	
Plaintiffs,	)	
	)	
v.	)	
	)	
HYDRO-QUEBEC; CENTRE NATIONAL DE	)	
LA RECHERCHE SCIENTIFIQUE;	)	
UNIVERSITE DE MONTREAL; and	)	
LIFEPO4+C LICENSING AG,	)	
	)	
Declaratory Judgment	)	
Defendants.	)	

## COMPLAINT

Plaintiffs Advanced Lithium Electrochemistry (Cayman) Co., Ltd. and Advanced Lithium Electrochemistry Co., Ltd. (collectively, “Advanced Lithium” or “Plaintiffs”), by and through their undersigned counsel, file this Complaint against Hydro-Quebec, Centre National de la Recherche Scientifique (“CNRS”), Universite de Montreal, and LiFePO4+C Licensing AG (“LiFe”) (collectively “Defendants”), and allege as follows:

## NATURE OF THE ACTION

1. This is an action for declaratory judgment of invalidity of a United States Patent pursuant to the Declaratory Judgment Act, 28 U.S.C. §§ 2201-2202, and the Patent Laws of the United States, 35 U.S.C. §§ 1, *et seq.*

2. Plaintiffs seeks declaratory judgment that no claim of U.S. Patent No. 7,601,318 (“the ’318 Patent”; Exhibit A) is valid or enforceable, and for such other relief as the Court deems just and proper.

### **THE PARTIES**

3. Plaintiff Advanced Lithium Electrochemistry (Cayman) Co. Ltd. is a corporation organized and existing under the laws of the Cayman Islands and maintains its principal place of business at No. 2-1, SingHua Rd., Taoyuan 330467, Taiwan.

4. Plaintiff Advanced Lithium Electrochemistry Co., Ltd. is a corporation organized and existing under the laws of the Republic of China (Taiwan) and maintains its principal place of business at No. 2-1, SingHua Rd., Taoyuan 33068, Taiwan.

5. On information and belief, Defendant Hydro-Quebec is a corporation of Canada having its principal place of business at 75, Boul, Rene-Levesque Ouest, Montreal, Quebec, H2Z 1A4, Canada.

6. On information and belief, Defendant CNRS is a corporation of France having a principal place of business at 3, Rue Michel-Ange, 75016 Paris Cedex 16, France.

7. On information and belief, Defendant Universite de Montreal is a corporation of Canada having a principal place of business at 2900, Boulevard Edouard-Montpetit, Montreal, Quebec, H3T 1J4, Canada.

8. On information and belief, Defendant LiFePO<sub>4</sub>+C Licensing AG is a Swiss Corporation having a place of business at Hertensteinstrasse 51, 6004 Lucerne, Switzerland.

9. On information and belief and according to the assignment recorded with the United States Patent and Trademark Office (“USPTO”) on March 13, 2007, Defendants Hydro-Quebec, CNRS, and Universite de Montreal are assignees of the ’318 patent, having the entire right, title, and interest in the ’318 patent. (Exhibit B.) On information and belief, Defendant LiFe

obtained a worldwide license or sublicense from Hydro-Quebec, CNRS, and Universite de Montreal, and has the exclusive right to grant sublicenses to third parties.

### **JURISDICTION AND VENUE**

10. The Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a), because this action involves claims arising under the patent laws of the United States, 35 U.S.C. §§ 1, *et seq.*, and under the Declaratory Judgment Act, 28 U.S.C. §§ 2201 and 2202.

11. The Court has personal jurisdiction over Defendants pursuant to 35 U.S.C. § 293, which states that “[e]very patentee not residing in the United States may file in the Patent and Trademark Office a written designation stating the name and address of a person residing within the United States on whom may be served process or notice of proceedings affecting the patent or rights thereunder” and that “if no person has been designated, the United States District Court for the Eastern District of Virginia shall have jurisdiction and summons shall be served by publication or otherwise as the court directs.” Further, “[t]he court shall have the same jurisdiction to take any action respecting the patent or rights thereunder that it would have if the patentee were personally within the jurisdiction of the court.” On information and belief, Defendants have not filed a designation stating the name and address of a person residing within the United States on whom may be served process or notice of proceedings affecting the ’318 patent, and thus this Court retain personal jurisdiction of Defendants, none of whom resides in the United States.

12. Venue is proper in this judicial district pursuant to 28 U.S.C. § 1391(b)(1) because, for the purpose of the venue statute, an entity is deemed to reside in any judicial district in which such defendant is subject to the court’s personal jurisdiction.

13. An actual and justiciable controversy exists between Plaintiffs and Defendants concerning the validity and enforceability of the ’318 patent. Defendant LiFe contends that

Advanced Lithium is required to make additional, unjustified royalty payments through January 30, 2025, relying on its purported expiration date of the '318 patent. However, while the '318 patent was purportedly granted a patent term adjustment of 1,227 days under 35 U.S.C. § 154(b), the '318 patent is invalid under the obviousness-type double patenting (“ODP”) doctrine and no longer valid or enforceable, at least because the named inventors and Hydro-Quebec have received at least one other patent on the same subject matter or its obvious variation that expired earlier. Despite having an invalid, expired, or enforceable patent, Defendant LiFe initiated legal proceedings in the Superior Court in the Province of Quebec, District of Montreal, alleging breach of contract, demanding additional royalties, and seeking other relief based on its alleged patent right. For these reasons and the reasons set forth below, a justiciable controversy exists between the parties, which is of sufficient immediacy and reality to warrant declaratory relief in this District.

### **BACKGROUND**

14. U.S. Patent No. 7,601,318 (“the '318 Patent”) is titled “Method for Synthesis of Carbon-Coated Redox Materials with Controlled Size” and was issued on October 13, 2009 (attached as **Exhibit A**). The '318 patent lists inventors Michel Armand, Michel Gauthier, Jean-Francois Magnan, and Nathalie Ravet. The '318 patent issued from Application No. 10/362,763, which identified a PCT application, No. PCT/CA01/01319 filed on September 21, 2001. The '318 patent was assigned to Defendants Hydro-Quebec, CNRS, and Universite de Montreal on March 9, 2007 (**Exhibit B**).

15. U.S. Patent No. 7,285,260 (“the '260 patent”) is titled “Synthesis Method for Carbon Material Based on  $LI_xM_{1-y}M'(XO_4)_N$ ” and was issued on October 23, 2007 (attached as **Exhibit C**). The '260 patent lists the same inventors as the '318 patent—Michel Armand, Michel Gauthier, Jean-Francois Magnan, and Nathalie Ravet. The '260 patent issued from Application

No. 10/362,764, which identified a PCT application, No. PCT/CA01/01350 filed on the same filing date as the '318 patent, i.e., September 21, 2001. The '260 patent was assigned to Defendants Hydro-Quebec, CNRS, and Universite de Montreal on March 9, 2007 (**Exhibit D**).

16. The applicant filed the two applications leading respectively to the '318 patent and '260 patent as separate applications. Because the applicant failed to inform the USPTO of the close relationship, substantive overlaps, and common inventorship, specifications, and drawings of these two patent applications, they were assigned to different patent examiners. The '260 patent has eleven figures, many of which are the same as or similar to the figures in the '318 patent. Both the '318 and '260 patents state the field of invention as “a method for preparing electrode materials that are able to make possible redox reactions by exchange of alkaline ions and electrons” and that “The applications are in the area of primary or secondary electrochemical generators (batteries), super capacity generators and in the area of modulation systems for electrochromic light.” (Ex. A at 1:7-12; Ex. C at 1:6-12.)

17. The term of the '260 patent was extended under 35 U.S.C. § 154(b) by 218 days and thus, if valid, would have expired on April 27, 2022. The term of the '318 patent was extended under 35 U.S.C. § 154(b) by 1,227 days, and if valid, would expire on January 30, 2025. The additional patent term adjustment, if permitted, would give the '318 patent an unwarranted extension and unjustified patent term of two years, nine months, and three days as compared to the terms of the '260 patent.

## **FIRST CAUSE OF ACTION**

### **(Declaratory Judgment of Invalidity of the '318 Patent)**

18. Plaintiffs realleges and incorporates paragraphs 1 to 17 as if fully set forth herein.

19. An actual controversy, within the meaning of 28 U.S.C. §§ 2201 and 2202, exists between Plaintiffs and Defendants at least with respect to Defendants' assertion that Plaintiffs owe

royalties through January 30, 2025 as a result of sublicense agreements pertaining to the '318 patent and Plaintiffs' assertion that the claims of the '318 are not valid and enforceable under the obviousness-type double patenting doctrine.

20. Obviousness-type double patenting (ODP), also known as nonstatutory double patenting, applies when the same patent owner seeks or owns two patents sharing patentably-indistinct claims. U.S. patent law provides that “[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter ... may obtain a patent therefor.” 35 U.S.C. § 101 (emphasis added). Since its enactment, the courts have interpreted this provision as prohibiting an inventor “from obtaining more than one patent on the same invention.” *Abbvie Inc. v. Mathilda and Terence Kennedy Institute of Rheumatology Trust*, 764 F.3d 1366, 1372 (Fed. Cir. 2014). Courts have extended this prohibition “to preclude a second patent on an invention which ‘would have been obvious from the subject matter of the claims in the first patent, in light of the prior art.’” *In re Longi*, 759 F.2d 887, 893 (Fed. Cir. 1985). Thus, ODP is a judicially created doctrine that prevents an improper time-wise extension of patent rights by prohibiting the issuance to a single inventor or owner of claims in a second patent that are not “patentably distinct” from the claims of a first patent. *In re Lonardo*, 119 F.3d 960, 965 (Fed. Cir. 1997).

21. The '318 and '260 patents have the same inventors and, on information and belief, have the same owner, Defendants Hydro-Quebec, CNRS, and Universite de Montreal. *See* Exs. B and D.

22. The claims of the '318 patent are patentably indistinct from the claims in the '260 patent. By way of example, the following chart compares claim 1 of the '318 patent and claim 29 of the '260 patent:

Claim 1 of the '318 Patent	Claim 29 of the '260 Patent
<p>A method for the synthesis of compounds of the formula <math>C-Li_xM_{1-y}M'_y(XO_4)_n</math>, wherein C represents carbon cross-linked with the compound of formula <math>Li_xM_{1-y}M'_y(XO_4)_n</math>, wherein <math>0 \leq x \leq 2</math>, <math>0 \leq y \leq 0.6</math>, and <math>1 \leq n \leq 1.5</math>, M is at least one transition metal selected from the first line of the periodic table, M' is an element with a fixed valency selected from the group consisting of <math>Mg^{2+}</math>, <math>Ca^{2+}</math>, <math>Al^{3+}</math>, <math>Zn^{2+}</math> and combinations thereof and X is S, P or Si, said method comprising:</p>	<p>A method of synthesis of a material made of particles, wherein the particles comprise a core and a coating and/or are connected to each other by cross-linking, wherein the core comprises at least one compound of the formula <math>Li_xM_{1-y}M'_y(XO_4)_n</math>, wherein x, y and n are numbers such that <math>0 \leq x \leq 2</math>, <math>0 \leq y \leq 0.6</math>, and <math>1 \leq n \leq 1.5</math>, M is a transition metal or a mixture of transition metals from the first line of the periodic table, M' is an element with fixed valency selected from the group consisting of <math>Mg^{2+}</math>, <math>Ca^{2+}</math>, <math>Al^{3+}</math>, <math>Zn^{2+}</math> and combinations thereof and X is S, P or Si, wherein the coating comprises carbon connecting at least two particles to each other, and wherein the cross-linking comprises carbon connecting at least two particles to each other, the method comprising:</p>
bringing into equilibrium in the required proportions, for a duration of less than 5 hours, a mixture comprising the following precursors:	bringing into equilibrium in a reaction medium, in the proportions required, a mixture comprising the following precursors;
a) a source of M comprising at least one transition metal or at least one salt thereof;	a) a source of M, wherein at least part of the transition metal or metals that constitute M are in an oxidation state greater than that of the metal in the final compound $Li_xM_{1-y}M'_y(XO_4)_n$ ;
b) a source of the element M' that is a salt of M';	b) a source of an element M';
c) a source of lithium that is a salt of lithium;	c) a compound that is a source of lithium; and optionally,
d) a compound that is a source of X; and	d) a compound that is a source of X;
e) a source of a carbon conductor that is an organic substance,	wherein the synthesis is carried out in the presence of an organic substance as a source of carbon conductor, and
wherein the source of M and the source of M', if any, is in the form of precursor particles having a size of between 0.1 micrometer to 6 micrometer, wherein the precursor particles are made up of agglomerates of nanoparticles on the order of 50 nm to 100 nm,	wherein the synthesis leads to the material by a pyrolysis step for the carbon conductor after or simultaneously with preparing the mixture of the precursors and reduction of the mixture obtained; (including related disclosures of particle sizes, such as "the particles having a size between 0.05 micrometers and 15 micrometers, preferably between 0.1 and 10 micrometers.")

Claim 1 of the '318 Patent	Claim 29 of the '260 Patent
wherein the sources of the elements M, M', Li and X are introduced, in whole or in part, in at least one step, in the form of compounds having more than one source element, wherein the precursors a) to d) are mixed intimately, and	wherein the sources of the elements M, M', Li and X are introduced, in whole or in part, in the form of compounds having more than one source element, and
wherein a synthesis reaction is carried out by thermodynamic or kinetic reaction and bringing into equilibrium, in the required proportions, the mixture of the precursors a) to d), with a gaseous reducing atmosphere to provide an oxidation state of the transition metal of the desired valency for the formation of $\text{Li}_x\text{M}_{1-y}\text{M}'_y(\text{XO}_4)_n$ , by controlling the composition of said gaseous atmosphere, the temperature of the synthesis reaction step, and the amount of precursor c) relative to the amount of precursors a), b) and d);	wherein the synthesis is carried out by reaction and bringing into equilibrium, in the absence of carbon or in the presence of an amount of carbon insufficient or too inert kinetically to realize the reduction of a metal salt that constitutes M, in the proportions required, the mixture of precursors a) to d) with a gaseous reducing atmosphere, in such a way as to bring the transition metal or metals to the desired degree of valency,
the method further comprising at least one pyrolysis step of the source compound e) so as to obtain a carbon conductor with an electronic conductivity greater than $10^{-8} \text{ S} \cdot \text{cm}^{-1}$ , when measured on a sample of powder compressed at a pressure greater than or equal to $3000 \text{ Kg} \cdot \text{cm}^{-2}$ , wherein the synthesis reaction between the precursors a) to d) is carried out simultaneously with the pyrolysis reaction of the precursor e).	wherein the synthesis leads to the material by a pyrolysis step for the carbon conductor after or simultaneously with preparing the mixture of the precursors and reduction of the mixture obtained.

23. As demonstrated by the above chart, the overall claim structure of claim 1 of the '318 patent and claim 29 of the '260 patent is nearly identical and the language of the claim limitations is largely the same or substantially similar. To the extent the language of claim 1 of the '318 patent diverges from the claims of the '260 patent, the variations are patentably indistinct and would have been obvious from the claims of the '260 patent. Because the patent owners have obtained an improper time-wise extension of patent rights by obtaining a second patent (the '318 patent) having claims that are not patentably distinct from an earlier patent, the claims of the '318 patent are invalid.



24. Under 28 U.S.C. §§ 2201 and 2202, Plaintiffs are entitled to a declaratory judgment that the claims of the '318 patent are invalid and unenforceable under the obviousness-type double patenting doctrine. A judicial determination of the validity and enforceability of the '318 patent is necessary and appropriate under 28 U.S.C. § 2201 to resolve the parties' dispute.

## **SECOND CAUSE OF ACTION**

### **(Declaratory Judgment of Unenforceability for Inequitable Conduct)**

25. Plaintiffs reallege and incorporate paragraphs 1 to 23 as if fully set forth herein.

26. An actual controversy, within the meaning of 28 U.S.C. §§ 2201 and 2202, exists between Plaintiffs and Defendants at least with respect to Defendants' assertion that Plaintiffs owe royalties through January 30, 2025 as a result of a sublicense agreement pertaining to the '318 patent and Plaintiffs' assertion that the claims of the '318 are unenforceable as a result of inequitable conduct.

27. The Supreme Court has instructed that "[t]he far-reaching social and economic consequences of a patent ... give the public paramount interest in seeing that patent monopolies spring from backgrounds free from fraud or other inequitable conduct ..." *Precision Instrument Mfg. Co. v. Automotive Maintenance Machinery Co.*, 324 U.S. 806 (1945). Patent applicants owe a duty to disclose all facts and information that are material to the patentability of the claims in the application known to the applicant, its attorneys or agents, and others substantively involved in the prosecution of the patent application. Inequitable conduct may be proved where "the applicant knew of the reference, knew that it was material, and made a deliberate decision to withhold it." *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1290 (Fed. Cir. 2011). "[A] district court may infer intent from indirect and circumstantial evidence." *Id.*

28. On information and belief, the patent applicant and the attorneys and agents operating on their behalf in submitting the application leading to the '318 patent were aware of the

filing of the patent application leading to the '260 patent, which application was filed on the same day. On information and belief, the patent applicant and the attorneys and agents operating on their behalf were aware of the substantial similarity of the subject matter described and claimed in the two patent applications throughout patent prosecution of the two patent families.

29. On information and belief, the patent applicants and the attorneys and agents operating on their behalf were aware that the two patent applications were before different patent examiners, and that the patent examiners may not have been aware of the copending patent applications on related subject matter. On information and belief, the patent applicants and the attorneys and agents operating on their behalf did not disclose the existence of the copending patent applications and made a deliberate decision to withhold information relating to the copending patent applications.

30. On information and belief, the existence of the copending patent applications was material to patentability, because had the patent examiners been aware of the copending patent applications, they would have issued an obviousness-type double patenting rejection and required the filing of a terminal disclaimer, such that the '318 patent would have expired at the same time as the '260 patent. On information and belief, by not disclosing the existence of the copending applications to the patent examiners, the patent applicants have obtained an improper time-wise extension of patent rights by obtaining a second patent (the '318 patent) having claims that are not patentably distinct from an earlier patent.

31. Under 28 U.S.C. §§ 2201 and 2202, Plaintiffs are entitled to a declaratory judgment that the claims of the '318 patent are unenforceable based on inequitable conduct. A judicial determination of the validity and enforceability of the '318 patent is necessary and appropriate under 28 U.S.C. § 2201 to resolve the parties' dispute.

**PRAYER FOR RELIEF**

**WHEREFORE**, Plaintiffs demands judgment as follows:

- A. A declaration that the '318 patent is invalid;
- B. A declaration that the '318 patent is unenforceable;
- C. A declaration that this action is an exceptional case under 35 U.S.C. § 285;
- D. An award to Plaintiffs of attorneys' fees and costs incurred in this action; and
- E. A grant of such other and further relief as this Court deems just and proper.

Dated: August 14, 2024

Respectfully submitted,

/s/ Bradford C. Schulz

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